REMARKS:

I. Status of the Application.

Following the above amendments, claims 1 – 42 are pending. Claims 17 – 42 are new, and have been added to further clarify the new and novel database integration and behavioral modeling of the present invention.

In the September 28, 2004 Office Action (the "Office Action"), claims 1 - 16 were rejected as obvious under Section 103(a) based on Simoudis et al. U.S. Patent No. 5,692,107 ("Simoudis" or the "Simoudis reference") in view of Anderson et al. U.S. Patent No. 5,974,396 ("Anderson" or the "Anderson reference").

In this response, Applicants have amended claims 1 – 11 and 13 – 15, and have added new claims 17 – 42. Applicants respectfully traverse the rejection of claims 1 – 16 under Section 103(a). Applicants respectfully request reconsideration of the pending claims in view of the foregoing amendments and the following remarks.

II. Support and Basis in the Pending Application for the New Claims.

Support for the new claims may be found throughout the specification and the previous applications incorporated by reference. The specific supporting sections below are intended to aid examination of the new claims, and support in the specification is not to be construed as limited, in any way, to the specific citations enumerated below.

Support for claims 17 and 30 may be found throughout the specification, and more particularly, with reference to Figures 3 and 6.

Support for claims 18 and 31 may be found on pages 14 – 15 of the specification.

Support for claims 19 and 32 may be found on pages 12 – 13 of the specification.

Support for claims 20 and 33 may be found on pages 12 – 13 of the specification and with reference to Figures 3 and 4.

Support for claims 21, 22, 34 and 35 may be found on pages 13 – 14 of the specification and with reference to Figure 5.

Support for claims 23 and 36 may be found on pages 6 and 15 – 16 of the specification and with reference to Figure 6.

Support for claims 24, 25, 37 and 38 may be found on pages 4 – 5, 8, and 10 of the specification.

Support for claims 26 and 39 may be found on pages 7 and 18 of the specification.

Support for claims 27 and 40 may be found on pages 7 and 17 of the specification.

Support for claims 28, 29, 41 and 42 may be found on pages 15 – 16 of the specification and with reference to Figure 6.

III. The Rejection of Claims 1 – 16 Should Be Withdrawn.

In the September 28, 2004 Office Action (the "Office Action"), claims 1 – 16 were rejected as obvious under Section 103(a) based on Simoudis in view of Anderson. For the reasons stated below, Applicants respectfully traverse the rejection of claims 1 – 16 (as amended) under Section 103(a), and request that the Examiner withdraw the rejection of these claims. As discussed in greater detail below, the cited references do not disclose and do not render obvious all the limitations of the claimed invention and, in addition, teach away from the claimed invention. As a consequence, claims 1 – 16 as amended and new claims 17 – 42 are allowable in their present form.

The claimed invention provides a method of integrating disparate databases and creating behavioral models from the resulting integrated database, using data from each of the databases forming the integrated database. Significant to the present invention, these various databases cannot be combined simply through a table join operation (as known in the art), for example. Rather, because the databases are "disparate", such databases cannot simply be matched, element by element, to create an integrated database, as there are no such elements to directly match upon or which would allow a direct table join. *See, e.g.*, a typical dictionary definition of "disparate", which means "containing or made up of fundamentally different and often incongruous elements" (Webster's Ninth New Collegiate Dictionary, 1984).

For example, one database may have transactional information of a first group of unidentified individuals (such as a credit card database subject to strict privacy and usage regulations, in which identifying information is legally protected from disclosure), while another database may contain national survey data from a second, different group of individuals. Specification, p. 10, ll. 8-14, and p. 13, ll. 14-17. As a consequence, without the features of the present invention, there is no commonality for a table join or other matching between such disparate databases.

In accordance with one aspect of the invention, such as that illustrated in independent claims 1 and 9, as amended, substantive commonality is created, in which qualitative variables from each database, which are not common to all databases, are converted to quantitative variables which are created to be common to all databases of the integration. Information within each database is then converted according to these quantitative variables, and such corresponding data (converted information) is then utilized to create linkage between the disparate databases. Once such linkage is created, behavioral models may be created using integrated data from each of the databases (not just information from one or fewer than all of the databases).

As an overly simplified example, transactional information from a credit card database, such as "shopping at Macy's" (first qualitative variable), may be converted into quantitative information. In this exemplary context, representative quantitative variables could include, also for example, the mean number of transactions per person for this type of merchant, and the mean amount per transaction for the merchant. Information in another, wholly unrelated database (*e.g.*, a market research database), has different qualitative information such as "shopping at Marshall Fields'" (second qualitative variable which does not match the first qualitative variable), which may also be converted to this type of quantitative information. This quantitative information has now been created to span all of the databases, and can be utilized to create linkage between different databases, in accordance with the present invention. Using this methodology, substantive commonality may be created for regional comparisons, for example, which have different mixes of retailers.

This data transformation of the present invention is substantive, converting the type of information in each database, which is incompatible with the

information in the other databases, into another type of information which can be created to be common across the databases. This data conversion is much more than mere format changing, or filling in null values, which would be typical of the prior art table join operation (discussed below with respect to Simoudis).

In another aspect of the invention, such as that illustrated in independent claims 17 and 30, a plurality of such incongruous (or non-matching) qualitative variables are also identified for each database, and are then used to create statistical drivers, *i.e.*, those variables having more significant discriminatory capability. These statistical drivers are created to be common across all the databases, with any database recoding or other data conversion to create corresponding data based on the statistical drivers. Using this corresponding data from the statistical drivers, the disparate databases are linked, for subsequent cluster analysis, validation of a cluster solution, and creation of a discriminatory behavioral model.

The cited references do not disclose or suggest such integration of disparate database and behavioral or attitudinal model extraction from the integrated databases. Rather, both the Simoudis and Anderson references *teach away* from the present invention. Indeed, the Anderson reference discloses creating separate databases from a common pool of information, which are then linked trivially through pre-assigned unique identification numbers. The Simoudis reference only provides for format changes for combinations of tables using known table join methodology to create a target data set for data extraction; Simoudis does not disclose or suggest any capability for actually combining databases into an integrated database where each underlying database is incommensurate or incongruous with the other databases to be integrated. As a consequence, the present invention is neither anticipated nor rendered obvious by the Simoudis and Anderson references.

Such teaching away is the antithesis of art suggesting that a person of ordinary skill go in the claimed direction. See *In re Fine*, 873 F.2d 1071 (Fed. Cir. 1988). This teaching away from Applicants' invention is a *per se* demonstration of lack of obviousness and a lack of anticipation.

That the Simoudis and Anderson references, alone or in combination, do not suggest or disclose the present invention is understandable, as each addresses a very

different problem or situation. Simoudis provides a modular interface to a plurality of databases, so that common data mining application modules may be utilized for analysis across different databases. In order for these common modules to work, a target data set having a known format and schema is created, so that any data mining module will be able to communicate with and analyze the correct fields of the target data set. As a consequence, Simoudis simply utilizes known format transformation methods "to convert attributes and characteristics of a selected data source 114 to those expected by the selected module" (Simoudis, col. 3, ll. 54-57), providing "impedance matching" to transform data formats to the "expected format" of the data mining module (Simoudis, col. 3, ll. 57-61), and to "fill in missing values if necessary" (Simoudis, col. 4, ll. 22-26). Simoudis does not disclose or suggest any form of substantive data transformation, such as the conversion of incommensurate qualitative variables into common quantitative variables or statistical drivers in accordance with the present invention.

Simoudis further teaches away from the present invention, as Simoudis does not provide for any integration other than a table join, which requires pre-existing data fields or attributes in common across the tables (because otherwise there is no basis for the join operation). In Simoudis, the target data set is formed by selecting a single table in the underlying databases, or by "joining 314 the selected tables" (Simoudis, col. 6, ll. 5-12). As indicated above, such trivial table joins are inapplicable to and cannot work with the present invention, as the data sets are incommensurate (*e.g.*, different groups of individuals, different retail information). Indeed, nothing in the Simoudis reference discloses or suggests how to integrate "apples and oranges", such as a transaction database and a national survey research database. As a consequence, utilizing only format transformation and table joins, the Simoudis reference teaches away from the present invention.

The Anderson reference also teaches away from the present invention. Anderson discloses a typical database system of a modern grocery store, in which customers are issued some type of "membership" cards, which uniquely identify a particular customer (Anderson, col. 4, ll. 19-33). As part of the card issuing process, the grocery store collects demographic information on the customer, which it tracks using an assigned member identification number ("MIN") (Anderson, col. 8, ll. 21-35). When a

given customer shops, the card is scanned, so that information concerning what that individual purchased may be tracked using the assigned identification number (Anderson, col. 4, ll. 19-33; col. 7, ll. 22-41).

Rather than integrating disparate databases, the Anderson reference divides the information gathered into two different databases, which are linked ahead of time using the member identification number (Anderson, col. 4, ll. 19-33). With the assigned identification numbers, every piece of information is automatically matched to other data fields, such that there are no disparate databases in Anderson.

Because storing information for each product transaction may create an excessive volume of information (col. 3, ll. 20-29), using "predefined" product criteria, the Anderson reference assigns various products into *a priori*, generic product clusters, and also provides "predefined" consumer criteria for *a priori* consumer clusters (Anderson, col. 4, ll. 7-18). As an example of Anderson, a purchase of "cat food" would be pre-assigned in advance to a generic cluster of "pet food" (Anderson, col. 10, ll. 24-27). This information is then divided, not integrated, into separate database tables, for products and consumers, and linked using the pre-assigned identification number (See, e.g., Figure 6 and col. 10, ll. 31-45). As all clusters are pre-defined, all clustering in Anderson is predetermined, in advance of any data analysis, and is not empirically derived from data analysis.

As a consequence, the Anderson reference does not provide any of the empirical clustering analyses and database integrations of the present invention. Rather, using predefined criteria for each type of consumer or product cluster, and by dividing information into separate databases linked in advance using identification numbers, Anderson also teaches away from the present invention.

In summary, neither of the Simoudis or Anderson references discloses creating a combined, integrated database, from a plurality of *disparate* databases. Neither discloses identifying qualitative variables in each database, and converting them into quantitative variables to create grounds for commonality across the incongruous databases. Neither discloses converting the data within each database based on such quantitative variables.

In addition, other claimed features of the present invention are not disclosed or suggested in either of the Simoudis or Anderson references. For example, neither reference discloses creation of statistical drivers across each of the disparate databases, which are then used to link corresponding (and transformed) data elements, to integrate the various databases. Also for example, neither reference discloses or suggests creating a simultaneous cluster solution across such disparate databases, using information from each. Also for example, neither reference creates linkage based upon values of the underlying data itself (of statistical drivers or variables), and instead rely upon pre-assigned identification numbers for linkage or table joins of already common fields or attributes.

Moreover, the examiner has not presented any motivation, suggestion or teaching to combine these references. The mere fact that the references could be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680 (Fed. Cir. 1990). In addition, identification of any individual part claimed is insufficient to defeat patentability of the whole claimed invention. See *In re Kotzab*, 217 F.3d 1365 (Fed. Cir. 2000). Accordingly, no *prima facie* showing of potential obviousness has been made, and any assertions to the contrary have been clearly rebutted. *In re Rouffet*, 149 F.3d 1350 (Fed. Cir. 1998); *In re Mills*, supra. The rejection of claims 1 – 16 as obvious under Section 103(a), therefore, should be withdrawn.

As a consequence, the Simoudis and Anderson references, alone or in combination, do not disclose and do not suggest the claimed features of independent claims 1 and 9 (as amended), and new independent claims 17 and 30. The present invention, therefore, is not anticipated and is not rendered obvious by these references under Sections 102 or 103, and the rejection of the claims should be withdrawn. In addition, because the remaining dependent claims incorporate by reference all of the limitations of the corresponding independent claims, all of the dependent claims are also allowable over the cited references.

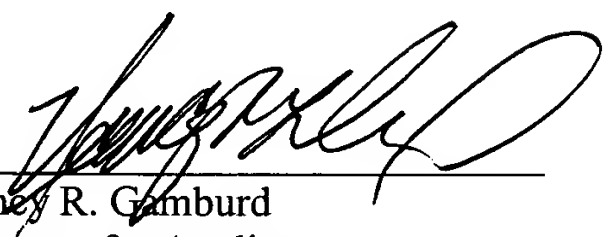
On the basis of the above amendments and remarks, reconsideration and allowance of the application is believed to be warranted, and an early action toward that end is respectfully solicited. In addition, for any issues or concerns, the Examiner is

invited to call or email the attorney for the applicants at the telephone number and email address provided below.

Respectfully submitted,

Max F. Kilger et al.

January 18, 2005

By 
Nancy R. Gamburd
Attorney for Applicant
Registration No. 38,147
Phone: 312-627-2193
Fax: 312-627-2302
ngamburd@dykema.com

CERTIFICATE OF EXPRESS MAILING

I hereby certify that the within and foregoing REQUEST FOR CONTINUED EXAMINATION, REQUEST FOR CONTINUED EXAMINATION TRANSMITTAL (PTO/SB/30), AMENDMENT AND RESPONSE UNDER 37 CFR 1.111 AND 1.115 (22 PAGES), FEE TRANSMITTAL, PETITION FOR EXTENSION OF TIME, and POST CARD RECEIPT for Max F. Kilger et al., Serial No. 09/610,704, entitled "Process and System for Integrating Information from Disparate Databases for Purposes of Predicting Consumer Behavior", have been deposited as Express Mail EV 473486417 US in the United States Mail, postage prepaid, addressed to the Commissioner for Patents, P.O. Box 1450, Mail Stop RCE, Alexandria, VA 22313-1450, on January 18, 2005.

Nancy R. Gamburd
Reg. No. 38,147

CHICAGO\2084653.1
ID\NRG